



BSEE's View of SEMS

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Agenda



- **Background** – Safety & Environmental Management System (SEMS)
- **SEMS Objectives**, and concerns that have been raised on ability to reach them
- **Continual Improvement Possibilities**
 - Hazards Analysis and Risk Management
 - Contractor Coverage
 - Human Factors
 - Performance Indicators
 - SEMS Auditing

Development of SEMS



- **Triggers**
 - Process Safety Incidents
 - Development of safety management systems
- **Initially a Voluntary Standard**
 - API Recommended Practice for a Safety and Environmental Management Program (RP75)
 - 1991 First Edition
 - 2004 Third Edition (reaffirmed 2008)

Development of SEMS



- **Eventually adopted as Regulation**
 - 2009 June NPRM from MMS (BSEE predecessor)
 - 2010 April
 - Deepwater Horizon Incident
 - President directs DOI to recommend safety improvements
 - 2010 May: DOI recommends management system mandate
 - 2010 Oct.: DOI publishes SEMS I regulation
 - Adopts RP 75 framework

SEMS Continual Improvement



- 2011 Sept: SEMS II NPRM issued
- 2013 April: SEMS II Final Rule issued
- 2014 June: Compliance with most of SEMS II is required
- 2015 June: Compliance with Auditing requirements of SEMS II is required

Goals of the SEMS Regulation and of BSEE's approach to it



- Comprehensive development and implementation by industry of a management system that identifies and mitigates risk in all operations on an OCS facility
- Commitment to continual improvement in industrial practices so that incident rates and severity are reduced
- Improvement in BSEE regulations, enforcement approaches, and/or guidance so that:
 - Use of the management system approach is embraced
 - Successes are recognized
 - Tendency to fall back into less disciplined approaches is reduced

Continual Improvement Possibilities, going forward



- Recommendations from the Chemical Safety and Hazard Investigation Board (CSB), the Ocean Energy Safety Advisory Committee (OESAC), and Transportation Research Board of the National Academies (TRB)
 - Increase focus on process safety issues
 - Specifically target safety critical equipment (SCE) design and maintenance
 - Adequately mitigate risks to an acceptable level
- Results from BSEE review of 1st round SEMS audit reports, BSEE sponsored research (ABSG), and recent OCS incidents
 - Need to focus operators on SEMS effectiveness
 - Need to improve identification of hazard sources
 - Reduce confusion on contractor responsibilities
 - Incorporate KPIs and other Human Factor considerations

CSB, OESAC, TRB: Better Hazards Analysis and Risk Mitigation



- Acceptability Criteria for Risk
- Adequacy of Risk Management Plans
- Adoption of multiple Safety Barrier approach
- Ensure functionality of Safety Critical Equipment

USCG: Cyber Security



- How is BSEE managing risks associated with software incompatibility, general malware, intentional hacking, and all things in-between
- Is there a place in SEMS for cyber risk management
- What would it look like
- How is industry currently addressing the risks associated with cyber security offshore

ABSG, et al.: Expand Human Factor Considerations in SEMS



- Delineate in more effective terms Contractor Responsibilities within SEMS
- Acknowledge as a leadership responsibility, the motivational elements (or disincentives) for specific behaviors within the management system
- Use of Key Performance Indicators (KPIs) as another driving force that can also measure effectiveness of the SEMS elements

CSB, BSEE Research: Expand Coverage, Utility of SEMS Audits



- Adequacy of SEMS Auditing Frequency
- Adequacy of Facility Sampling Requirements
- Tools to ensure a SEMS is functioning prior to issuing permits for new operators
- Ways to share learnings from the audit reports to improve the SEMS of other operators
- Standardization of report formats, finding levels, and analysis of SEMS effectiveness / maturity
- Better BSEE follow-up on Corrective Action Plans (CAPs)

ABSG, et al: Identify effective ways to achieve Continual Improvement



- New regulations
- New industry standards
- New enforcement strategies
- New guidance from BSEE
- Focused approaches geared towards smaller operators
- Other approaches

The OESI Forum



- Timely dialogue on issues facing the industry
- Discuss room for improvement
- Why OESI
 - Core mission: foster dialogue among a variety of stakeholders
 - Unique, professional viewpoints
 - Ability to objectively summarize input from diverse points of view

API RP 75 and COS



- Relationship of this Forum to other SEMS improvement activities currently underway
- Opportunity to inform stakeholders:
 1. What the activities are
 2. Where they are heading
 3. How long will they take



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